

# Design Thinking Notes

## **Likes**

- Project-based learning > interdisciplinary = real-world/authentic > value > engagement > reaching desired outcomes
- High level of tech integration (1<sup>st</sup> graders: reading with text to speech app, writing with dictation app, writing formal letters in Pages by cutting and pasting from digital versions of their outlines, articulating ideas with presentation apps)
- Focus on fundamental dispositions and critical skills; open-ended and complex problem-solving
- Unpredictable/interesting (for all)
- Not too much to prep ahead of time: do as you go
- Flexible, student-centered learning
- Learning/skills embedded: Vocabulary, decoding, comprehension, written language conventions, writing organization, spelling, ...research, inferencing, defining, creating, analyzing, editing, ...

## **Challenges**

- Framing a good question (problem/challenge) well
- Breaking the challenge apart to be defined and understood by children (being empathetic to “where” they are and how/where they’ll likely “take” things)
- Teaching how to do group work/dynamics (I did team building exercises, had them choose group self names that they’d call each other during group work, name groups for ownership, practiced Socratic seminar-style discussion ...)
- Checking for understanding (Things like having them create goal statements and paying close attention to their thinking during brainstorming helps.)
- This is grade specific: Independent receptive (listening and reading) and productive (speaking and writing) skills are a barrier – Children must be competent in using tech supports.
- Just focusing on helping children to find direction/focus and providing scaffolding and resources (being unbiased, not planting ideas or being judgmental/biased/opinionated, just giving logical, comprehensive feedback)

## **Modifications made**

- Adjustments to phases/titles of phases
- Scaffolding: Apps for reading and writing, emailing documents, organizers/outlines, providing categories by which to group ideas
- Tech support necessary for quick production (“low-tech” interpreted as “quick” > using technology for speed)
- They are six and seven years old; they can’t do it all themselves: Compile (type up and email to them) information (e.g. their outlines, generated ideas) for kids’ reference

## **Advice: Planning**

- Framing the question: relevance to children, importance to society, appropriate level of challenge. This was the biggest piece in shaping the project. This takes time and skill.
- Mapping out: Map out sessions in large chunks to keep momentum and allow ample time, but give breaks to maintain stamina.
- Heads-up: You will need to revise things along the way. So, don’t plan with too much detail. This is student-centered. As such, you will need to create formats, organizers, etc. as you go to meet the needs of the students and the projects!
- Presentation of the project to the kids: Have a good pitch (epic, empathy/importance, relevance)
- Get ideas of how you think things will go/how kids will take things (trajectories), and plan accordingly (what would excite, confuse, which direction would it take?)

### **Advice: Instruction**

- Be super engaging/charismatic “pitch men” (the whole time!)
- Teach/model everything in the process as you go; let students flesh it out and extend it
- When modeling, use examples that student would not think of or want to use so that they don’t latch on to them but, rather, form original ideas.
- Keep momentum!!!
- Keep importance/relevance/goal at the forefront to guide and motivate.
- Don’t continue if they aren’t interested. Stop, and rework.
- Hype everything up! ... importance, complexity of task, interesting natures.
- Make it special (going to the D.O., special interviewees, using sharpies and sticky notes)
- Let them lead (with ideas/direction) and take ownership (group names, project names)

### **Scaffolding**

- Do a short trial run (We did: “How can we make the school more awesome?”) ahead of time to feel out the dynamic between the kids, you, and the process.
- Tech support (Google translate, video, email)
- Icons of depth and complexity (mostly: patterns, unanswered questions, big idea, details, multiple perspectives)
- Interactive (teacher- and technology-assisted) writing
- Strategic groupings: Peer support through heterogeneous groupings (I included in each group: a Socratic seminar discussion leader, a high reader, and a good writer.)

### **Ah ha moments/Surprises/Take-aways**

- Framing the right question well is essential!
- Students were more “into it” than expected
- We stayed on-schedule!
- On-location research is best: The best piece to reference for focus when selecting ideas and developing plans/rationales was the school needs tour (... walked around the school, looked at needs/problems, and took notes and photos)
- Best piece of research helping to refine student direction: interviews (works well for pre-writers since it’s listening, not reading)
- A focus on *needs* is very important. We saw this with the school needs tour, and Twila said in interviews: Before asking for money, you need to think: what do you want the money for? Robert brought a focus on enrichment activities that the students latched onto. We could have gone deeper/gotten more specific in this respect if we would have initiated focus in needs more to begin with, which is what this process is supposed to be about.
- THIS IS STUDENT-CENTERED! – My student’s unanswered question to the interview panel: “What do you guys mean? ...I don’t understand the words that you say!” We need to feel the students out very well, understanding where they are, where they want to go, and how well they are getting there. We need to check ourselves to make sure that we are on the same page as the students by observing, facilitating appropriately, and doing constant checks for understanding.
- School needs tour: I’ve never seen such writing with purpose! Make it real!
- Things totally changed when I created the “Need > idea > plan > rationale” format. The task became simplified for the students and for me!
- Using the DO boardroom, getting to meet important community members = motivation to push to the limits
- Move quickly; keep enthusiasm.
- It was interesting to hear what parents think.

- Group dynamics work is crucial! (e.g. creating group selves/training, team-building, Socratic seminar for discussion, strategic/heterogeneous groupings by the teacher)

### **For-next-time modifications**

- Provide more time for students critiquing each other. It's very productive.
- Have more of an explicit focus on forming and presenting *arguments* (common core).
- Work in more math. Even if it may be a little artificial, it's a great way to give relevance to and demonstrate application of math.
- Do as many cycles of prototyping/feedback as you can! (The kids were totally into it and got a lot from it!)

### **For teacher training**

- First: Put teachers through the process (... doesn't matter if they are aware or not) The best way to learn this is to do it. It is very important to internalize it.
- Do lots of work in generating good essential questions. (It's very rare to find people who can do this well!)
- Put together pre-framed questions for particular units/foci/standards for short projects, 1 to 3 hours, and longer projects, days to weeks, for various grade levels.
- Do work to develop an understanding of facilitating (not feeding ideas, etc.).
- Give permission to adjust (read increase) scaffolding but only what is absolutely necessary to keep students engaged and successful, while staying true to the process.
- Teachers must be trained in fostering good group dynamics for collaborative projects, including discussion techniques (e.g. Socratic seminar).
- Put together a simplified packet to describe the model:
  - Synthesize the information, focusing on the process as it is applicable in our educational context, changing some language, etc.
  - For each phase, have a short description, lists and descriptions of strategies (sorted/labeled by age and project type), and examples and non-examples of what that phase would look like, and "tips for teachers" + list various standards
  - Create an at-a-glance sheet of the process
- Teachers must also believe the hype. ;-)
- Advice: Stick to doing the projects in single classes (not multiple), if possible. Although more perspectives are shared, share time gets too long; and, different teacher strategies can impede efficiency on all ends.
- Advice: Teachers must believe that students can accomplish the goal with a good depth of understanding, or they won't.
- Advice: Intentionally work other curriculum/standards/foci into the project (e.g. essential questions, decoding, spelling, writing, list./speaking, math).
- You need principal and district support! This process can be scary for teachers because it's a big departure from what many of them practice as a norm and are used to being asked to do. Teachers need to know that they have permission to experiment and take risks!